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Economic and Commercial Analysis of the Shrimp Fishing Industry in Quebec, 1991

Economic and Commercial Analysis Report nº 116

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Economic and Commercial Analysis of the Shrimp Fishing Industry in Quebec, 1991

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SOMMAIRE EXÉCUTIF

La progression de la crevette aquicole continue d'alimenter l'offre sur les principaux marchés. Les États-Unis, en pleine récession, connaissent une demande et des prix à la baisse pour tous les types de crevettes. Submergé par une offre qui excède la demande, le marché européen de la crevette voit les prix chuter. Finalement, le marché japonais semble plus prometteur pour la crevette nordique bien que ce marché soit actuellement ignoré par l'industrie québécoise en raison peut-être de ses exigences particulières. Conséquemment, la marge de manoeuvre du producteur québécois s'amincie sur les marchés extérieurs et il doit donc écouler plus de produits sur le marché domestique. Les capitaines-propriétaires de crevettiers du Québec, pour leur part, connaissent une rentabilité intéressante en 1991. Ce gain est partiellement tributaire de la compétition qui existe entre les acheteurs et de la possibilité pour le pêcheur de diriger son effort de pêche sur la crevette classée supérieure avec l'avènement des contingents individuels.

ABSTRACT

Aquaculture shrimp has contributed to the continuing upward trend in supply on major markets. The United States, still faced with a severe recession, has seen a drop in demand and prices for all types of shrimp. On the European market, supply far exceeds demand, pushing all prices downward. The Japanese market seems promising for cold-water shrimp, although it has been neglected by the Quebec shrimp industry in part because of the very specific demands of that market. It is consequently becoming less profitable for Quebec processors to export product, and they are looking to the domestic market to sell their production. Quebec shrimpers ended the 1991 season with better than expected revenue. This gain is partially due to competition between buyers and the fact that fishermen could direct their efforts toward a better quality shrimp with the introduction of individual quotas (IQ).

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INTRODUCTION

This report is intended to inform those involved in the Quebec fisheries industry of the economic and commercial situation in the shrimp industry in 1991.

It is clear that tropical shrimp, particularly cultured shrimp, has had a major impact on all markets where it has appeared over the past decade. Quebec cold-water shrimp, often seen as an export product, is facing the presence of warm-water shrimp on United States and European markets. Other conditions in these markets also influence the demand for Quebec cold-water shrimp.

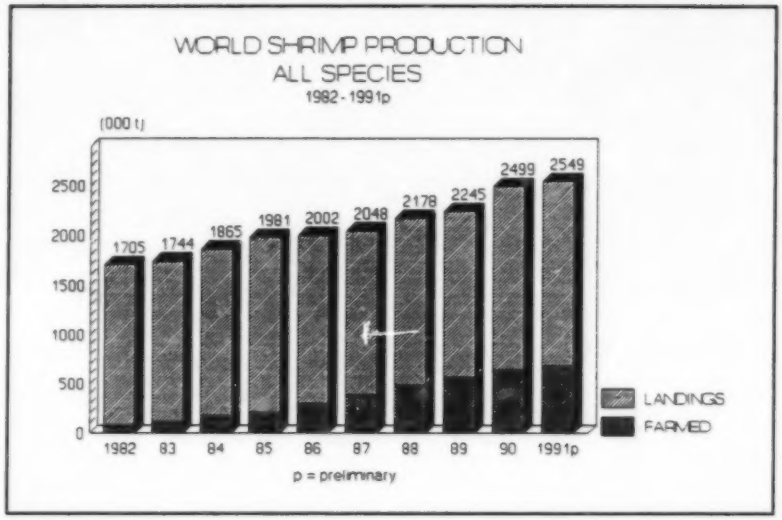
The economic and commercial analysis will review overall performance in 1991 and then go on to concentrate on markets of specific interest to the Quebec shrimp industry. Following this, we will analyse the impact of market conditions on the Quebec processing and fishing sectors.

We wish to take this opportunity to thank the Statistics Division in Quebec City for its cooperation in making the production of this report possible.

1. THE TERTIARY SECTOR

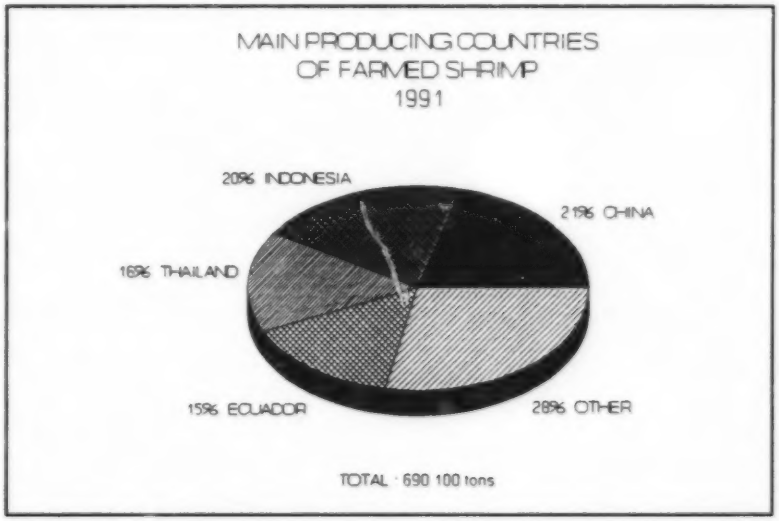
1.1 WORLD SUPPLY

Chart 1



Cultured shrimp continues to exert upward pressure on world supplies of all species of shrimp, which rose to over 2.5 million tonnes in 1991, 50% more than in 1982. Cultured shrimp, mainly from Asia and South America, now accounts for 27% of world production with 690,100 tonnes.

Chart 2



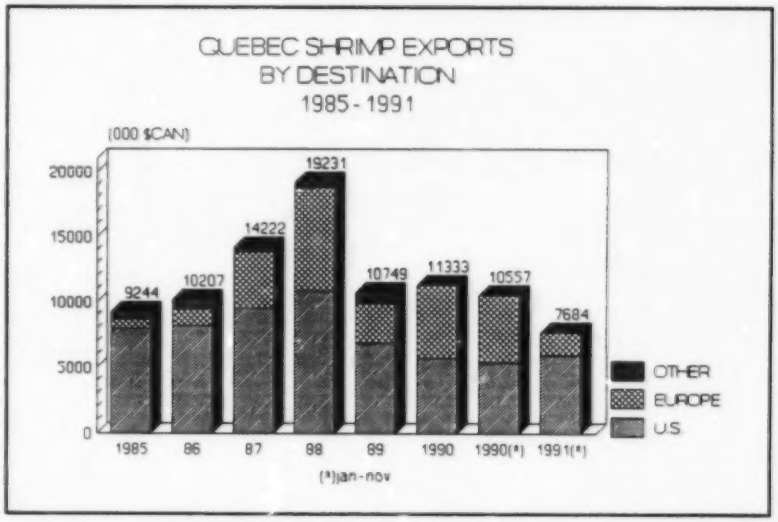
China maintained its hold on first place among cultured shrimp producers with 145,000 tonnes, despite a decline of 12% in production in 1991 due to disease which reduced yields. This decrease was compensated by production from Indonesia, Thailand and Ecuador, which all increased production in 1991.

The world shrimp supply thus maintained its momentum on the main markets in spite of uncertainty about the ability to absorb these ever-growing quantities.

1.2 DEMAND FOR QUEBEC SHRIMP

While Quebec has traditionally exported close to half its cold-water shrimp production, current conditions on export markets meant that less than a third of 1991 production was sent outside the borders of Canada. Quebec producers thus sold more shrimp on domestic markets or stored it until prices were more attractive.

Chart 3



Preliminary figures on Quebec shrimp exports for the first eleven months of 1991 consequently show a significant 27% decline in value compared to the same period of the previous year. Quebec exports declined from $10.5 million in 1990 to only $7.6 million in 1991.

Exports destinations for Quebec shrimp also changed in 1991 compared to the previous year. This year, close to 80% of exported shrimps went to the United States, while only 20% were shipped to Europe. In 1990, the United States and Europe accounted for equal shares of Quebec exports.

Chart 4

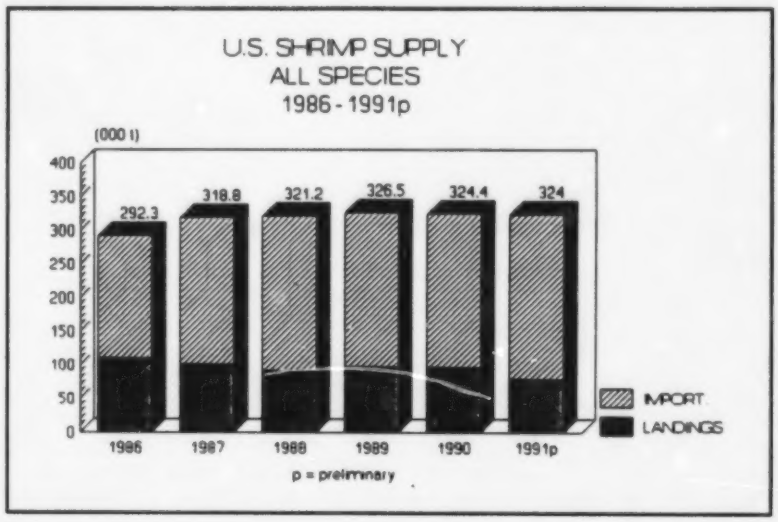
Overall in Canada, shrimp exports for the first eleven months of 1991 dropped by 23% in value compared to the same period a year earlier. As opposed to Quebec, however, the main destination for Canadian exports was Europe, which received over half, while 20% was going to Denmark. The United States bought a third of Canada's shrimp exports, and 16% was shipped to the Japanese market.

The United States, Europe and Japan formed the main export markets for our product. We will thus look briefly at the situation on these three markets so as to better understand the repercussions on our shrimp industry.

1.3 THE AMERICAIN MARKET

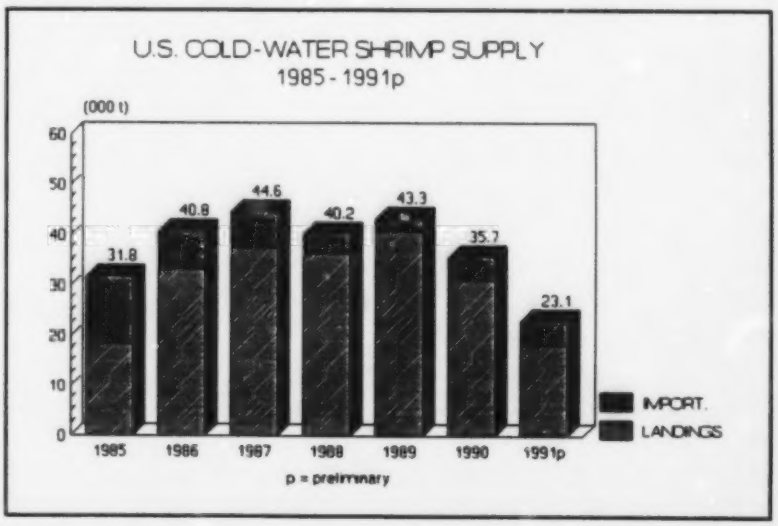
The United States is the world's leading market for shrimp, consuming mainly warm-water shrimp. Close to 90% of the United States shrimp market goes to tropical species.

Chart 5



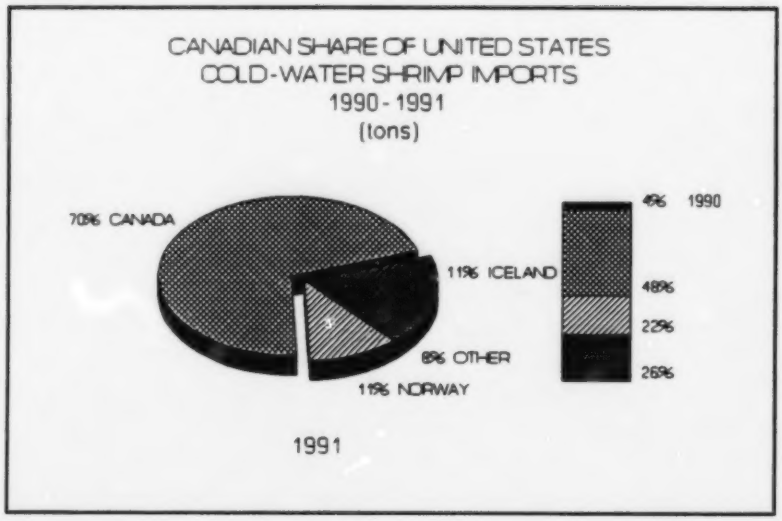
The United States imported slightly more shrimp in 1991 than in 1990 to compensate for declining domestic landings. The supply of all species of shrimp on the American market nevertheless remained stable. Approximately 324,000 tonnes came to market, a quantity similar to that of 1990.

Chart 6



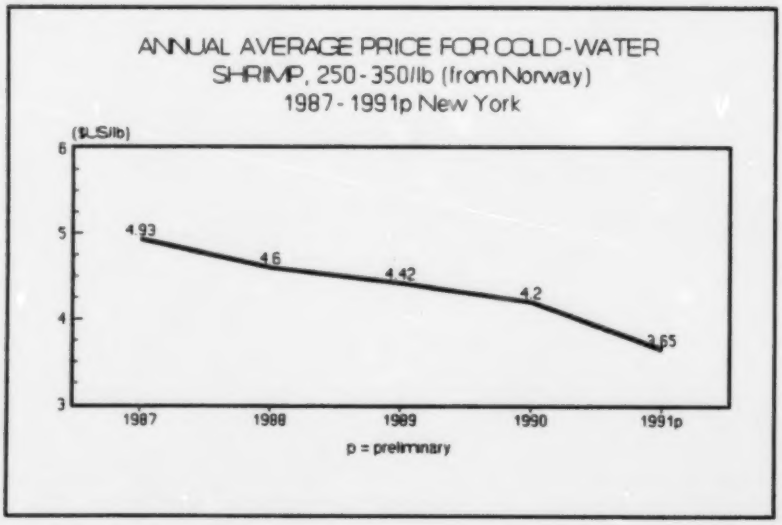
The situation for cold-water shrimp was quite different. American landings dropped by 41% from 1990 to 1991, and imports increased by only 4% during the period. The end result was 35% less cold-water shrimp on the American market in 1991 than in 1990.

Chart 7



In the area of United States imports of cold-water shrimp, Canada held the largest share with 70% of imports by volume. This is a substantial increase compared to the previous year, when Canada accounted for only 58%. The fear of a Norwegian invasion was not fulfilled, since only 11% of imported cold-water shrimp came from that country compared to 22% in 1990. Iceland's share of American imports was up, however, from only 4% in 1990 to 11% in 1991. Lower landings in Norway and higher ones in Iceland were partly responsible for this result in 1991.

Chart 8



With the major decrease in supplies of cold-water shrimp on the American market, it might have been expected that prices would firm up with a constant demand, but the reverse occurred. The price of shelled, cooked cold-water shrimp continued to drop in 1991, with a decrease of 13% compared to the previous year. Prices declined from $US 4.20/lb in 1990 to $US 3.65/lb in 1991.

For the Canadian exporter, this price decline was aggravated by the value of the Canadian dollar, which rose from 1990 to 1991 in terms of the United States dollar.

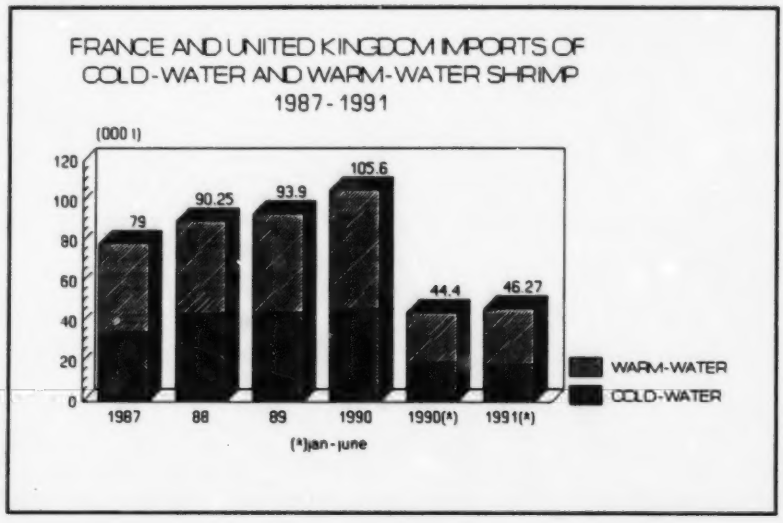
The demand for cold-water shrimp is thus on the decline, and the recession prevailing in the United States may be one of the reasons. Often considered a luxury product and eaten in restaurants, shrimp is faced with consumers who are more cautious in their spending. Moreover, the predominance of warm-water shrimp has not helped in the recovery of demand for cold-water shrimp.

The situation of cold-water shrimp on the United States market is not unique. Despite a stable supply of warm-water shrimp on the American market, prices dropped by 8%, indicating a decreased demand for this type of shrimp as well.

1.4 THE EUROPEAN MARKET

Imports on the third-largest world market increased by 46% from 1987 to 1990. The major European countries imported over 310,000 tonnes of shrimp in 1990. The majority of this increase is due to the arrival of cheaper warm-water shrimp.

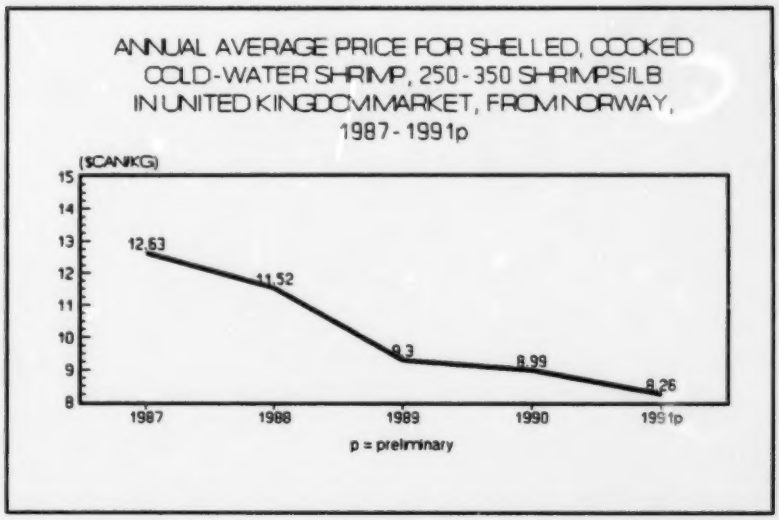
Chart 9



France and the United Kingdom, which account for over a third of the European market, had similar increases in shrimp imports, up 34% between 1987 and 1990. For the first six months of 1991, imports remained relatively stable with a slight increase of 4% compared to the same period the previous year. While these two markets have traditionally consumed cold-water shrimp, imports of warm-water shrimp now account for 56% of total imports.

European landings of cold-water shrimp remained relatively stable in 1991 compared to the previous year. Norway did see a decline of 8,000 tonnes in landings for the seven first months of 1991, but Iceland's landings were up by 6,800 tonnes, thus stabilizing the overall availability of cold-water shrimp.

Chart 10

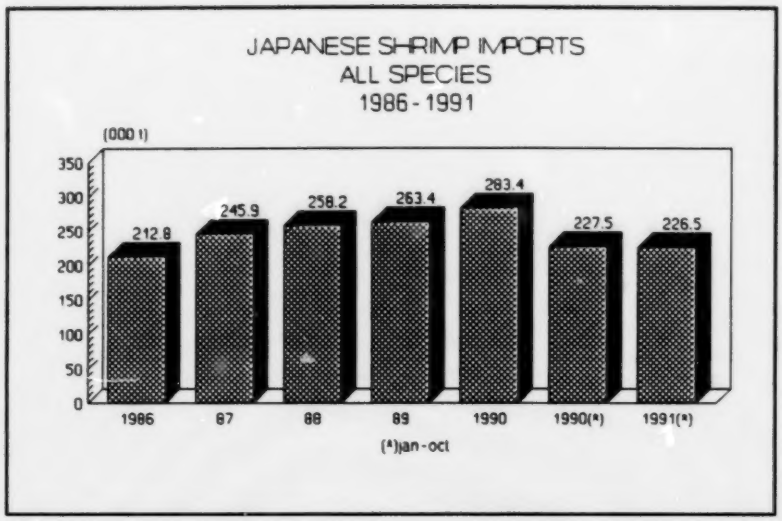


Despite stable supplies, the price of cold-water shrimp yielded to pressure from tropical shrimp. On the United Kingdom market, prices dropped 35% between 1987 and 1991. At $Can 8.26/kg, it is hardly profitable for a Canadian processor to send shrimp to the United Kingdom market when he must take into consideration all the customs charges and transportation costs.

The French market consumes some 20,000 tonnes of cold-water shrimp yearly. French consumers tend to prefer whole, cooked, frozen shrimp, since this product accounts for over 80% of French imports of cold-water shrimp. The relatively stable price for 1990 and 1991 is currently in the area of $Can 5.04/kg. If on the surface the price seems attractive, we must nevertheless bear in mind the fact that customs duties of 12% are levied on this product and transportation costs can reduce the profitability of shipping to that market.

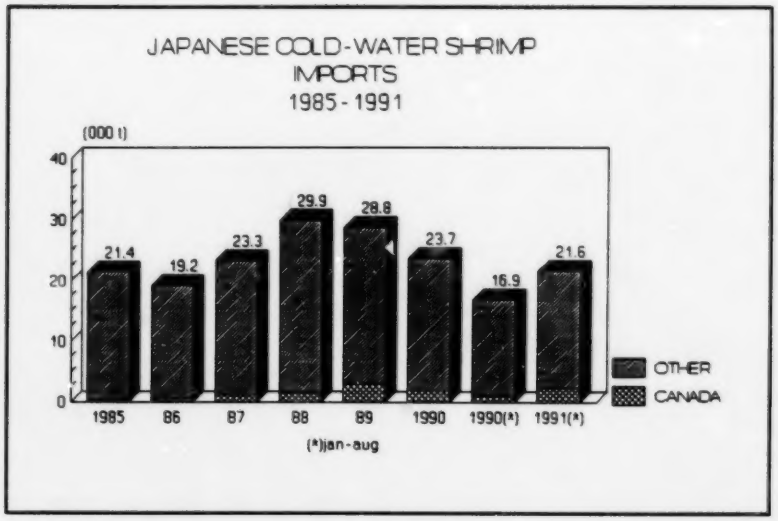
1.5 THE JAPANESE MARKET

Chart 11



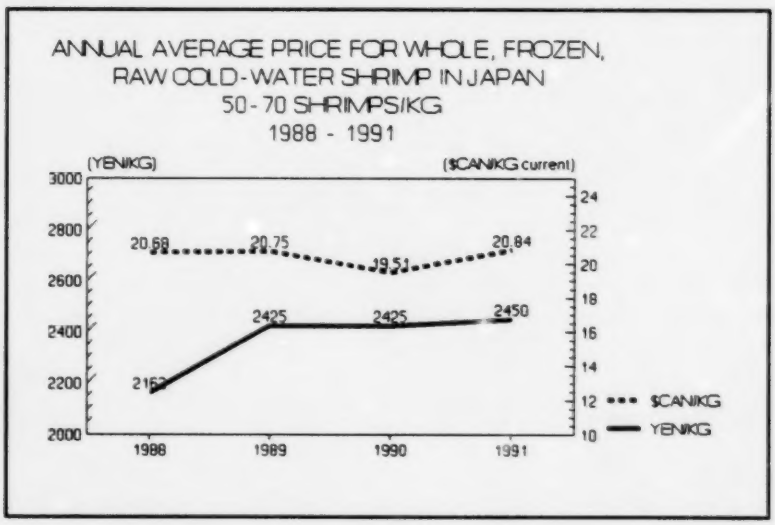
Japan, the second-ranking consumer of shrimp after the United States, is mainly a market for tropical species. While Japanese imports of all species of shrimp had been rising steadily over the past seven years, demand for imports stabilized in 1991. For the first ten months of 1991, imports remained at 1990 levels, about 226,000 tonnes. Stocks in 1991 were also slightly up from 1990, an indication of stagnant demand. The Japanese policy of deregulation of meat import tariffs may have had an impact on shrimp consumption. Meat, which had until now been relatively inaccessible, decreased in price and Japanese consumers could eat more meat to the detriment of shrimp.

Chart 12



The situation for cold-water shrimp is different. As opposed to total shrimp imports, imports of cold-water shrimp were up for the first eight months of 1991, rising from 16,900 tonnes to over 21,000 tonnes, an increase of 28%. There thus appears to be a strong demand for this type of shrimp.

Chart 13



The price of cold-water shrimp on the Japanese market has been rising slightly since 1988. In 1991, the average price of a kilogram of frozen raw whole shrimp was 2450 Yen/kg, up 13% from 1988 levels. For the Canadian exporter, prices in current Canadian dollars remained relatively stable, except for 1990 when the exchange rate resulted in lower real prices. In 1991, exporters could thus hope to obtain $CAN 20.84/kg for cold-water shrimp on the Japanese market.

The Japanese market is characterized by a demand for extremely fresh shrimp. The Japanese like cold-water shrimp whole, raw and frozen aboard ship or at least no more than three hours after being taken from the water. The special requirements of this market necessarily impact on the production costs of Canadian plants, which have different production methods for their traditional American and European markets. The significant price differential on the Japanese market and the situation existing on traditional markets might well encourage other producers to take a look at this highly specific market.

To summarize, the situation on traditional markets for cold-water shrimp is somewhat worrying. Demand and prices for this produce are down in the United States. The price situation in Europe is less favourable than usual for shipping cold-water shrimp to this market. Japan might well become an avenue to explore notwithstanding the particular requirements of this market.

The current situation in the fishing industry of the Community of Independent States (the former U.S.S.R.) might have repercussions on markets for cold-water shrimp in 1992. The C.I.S. fleet, which is looking for hard currency to finance its operations, might direct its fishing effort to cold-water shrimp, thus creating an imbalance in markets.

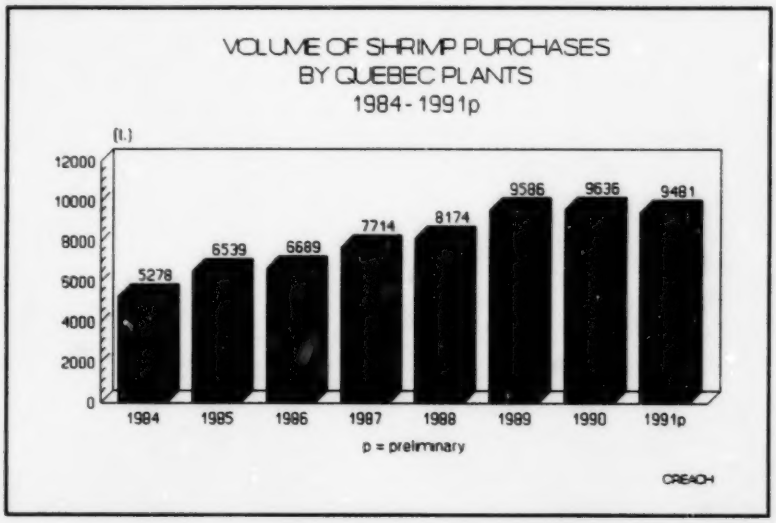
2. IMPACT ON THE PROCESSING SECTOR

Now that we have looked briefly at market conditions, it is interesting to see how these are related to the Quebec processing sector and see the repercussions of these conditions.

2.1 SUPPLIES TO QUEBEC PLANTS

In 1991, shrimp processing plants could count on supply in the order of 9,500 tonnes. Over the past three years, purchases have stabilized at current levels. This is, however, an increase of close to 80% over the volumes available in 1984.

Chart 14



2.2 PRODUCTION OF PROCESSING PLANTS

In 1990, eight purchasers, five of them major, processed $27 million worth of finished product, resulting in 325 jobs. The value of production was down 7% compared to 1989, mainly due to lower prices on markets.

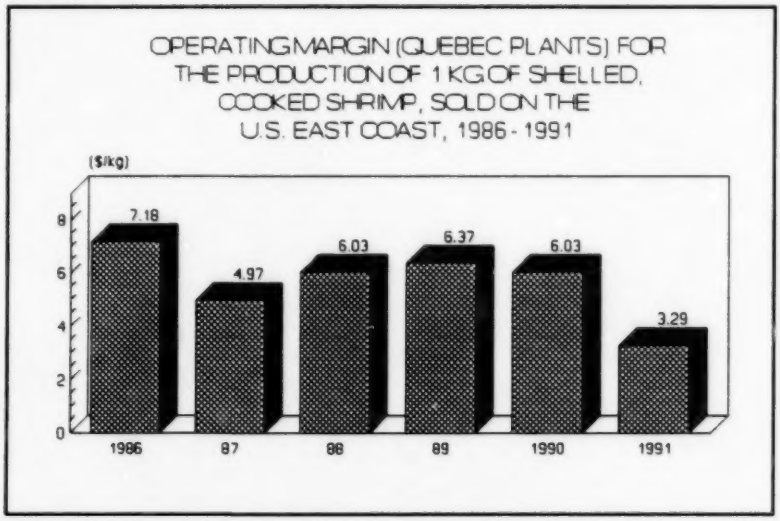
Most of the production was concentrated on the Gaspé Peninsula, while the Quebec North Shore accounted for 12% of the total value.

2.3 OPERATING MARGIN[1]

The operating margin is the difference between the selling price of a given quantity of product on the market and the cost of the raw materials used to produce it. It represents what remains per unit produced to pay production costs, after deduction of the cost of raw materials.

It should be clearly understood that the operating margin should not be seen as a measure of the financial soundness of processing plants. It simply shows whether it is more profitable to produce a given product under the same conditions from one year to another.

Chart 15



The purchase cost of a kilogram of processed raw material by a Quebec plant was $Can 5.95/kg in 1991, compared to $Can 4.92/kg the previous year. The plant that sold this shelled, cooked, frozen shrimp on the American East Coast market could look for $Can 9.24/kg in 1991 as opposed to $Can 10.99 in 1990. The operating margin thus decreased by 45%, falling from $Can 6.03/kg to only $Can 3.29/kg.

For the same period and a similar product sold in the United Kingdom, the operating margin dropped from $Can 4.08/kg to $Can 2.47/kg. Considering the cost of transportation to ship a kilogram of shrimp to Europe and a customs tariff that may be as high as 12%, it is easy to see why Quebec plants preferred to sell most of their production on Canadian and American markets.

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[1] The operating margin replaces the "gross margin" used in previous reports. It is hoped this change will make the concept clearer to our readers.

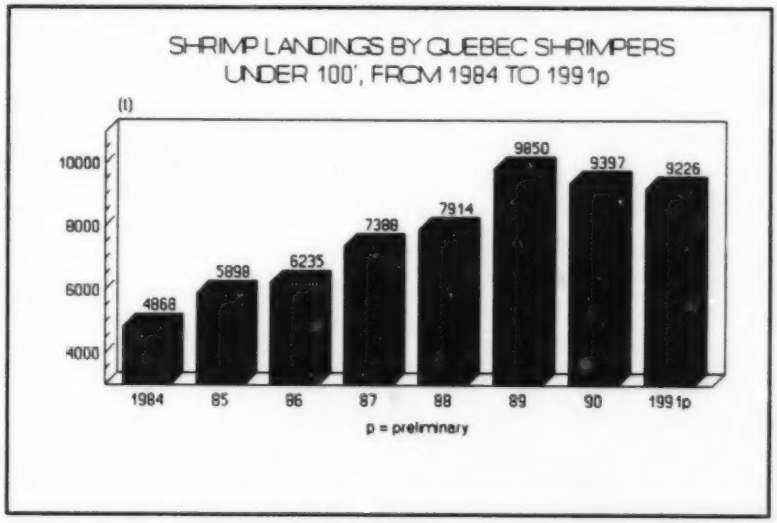
3. IMPACT ON THE FISHERIES SECTOR

The shrimp fishery in Quebec is shared by 56 licensees, of whom 49 were operating under individual quotas for the first year in 1991. Some 220 skipper-owners and helpers are employed by this fishery.

3.1 LANDINGS BY QUEBEC SHRIMPERS

Landings of shrimp by Quebec shrimpers, after doubling between 1984 and 1989, flattened out over the past three years. Catch levels in 1991 were approximately 9,226 tonnes.

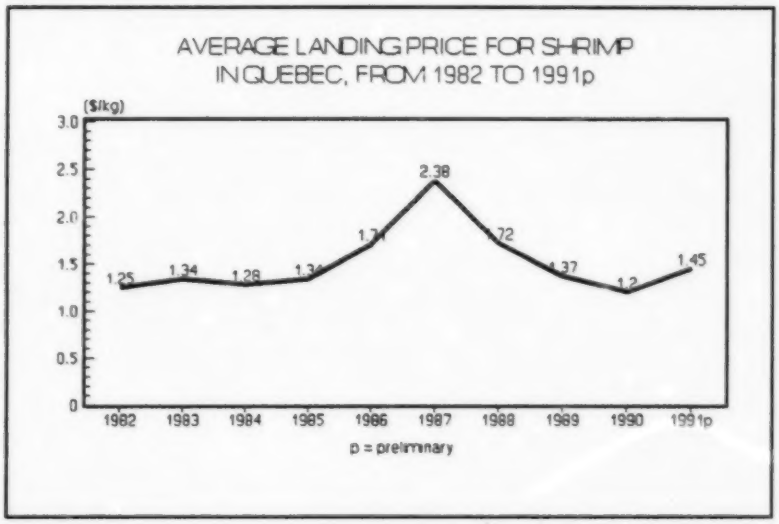
Chart 16



3.2 LANDING PRICES

The average landing price for shrimp decreased by 50% between 1987 and 1990. The price thus dropped from its highest level to its eight-year low in only three years. In 1991, however, the average price paid to fishermen was $Can 1.45/kg, which represents an increase of 21% over last year.

Chart 17

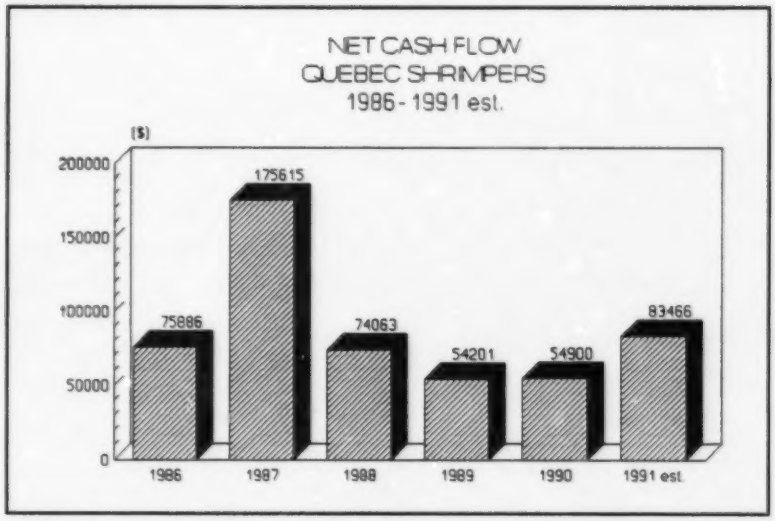


What is the reason for an increase in average prices paid to fishermen during a period when prices are falling on all markets? It should be borne in mind that the fisherman receives a different price for different categories of shrimp, depending on size. Thus the fisherman who now has an individual quota is in a better position to manage his fishing season and direct his fishing effort to the higher categories of shrimp, which command higher prices. Although the price of each category of shrimp has not increased, the overall average price is up. In addition, competition between buyers may be another determining factor in the increased prices offered to fishermen.

3.3 FINANCIAL PERFORMANCE

With relatively stable landings and a rising average price, the cash flow[2] of shrimper skipper-owners increased by 52% in 1991 over 1990. It was estimated at slightly over $83,000 for the year just ended.

Chart 18



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2 Cash flow: cash flow represents the before-tax salary of a skipper-owner. It is obtained by considering only funds actually received and paid out during the fiscal year. This gives us an indication of economic performance during the year in question.

APPENDICES

TABLE 1: Trends in world production of shrimp, all species, in '000 metric tonnes, 1982-1991

YEAR	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991e*
Production - culture	85	122	175	210	305	389	488	565	640	690
Production - fishery	1620	1622	1690	1771	1697	1659	1690	1680	1859	1859
Total	**1705**	**1744**	**1865**	**1981**	**2002**	**2048**	**2178**	**2245**	**2499**	**2549**

Source: Peckham Charles, Seafood International, October 1991.

*Estimate from "Eurofish Report", February 13, 1992, page SP/8.

TABLE 2: Countries producing cultured shrimp (percentage of world production, production in metric tonnes) in 1991

COUNTRY	Percentage world production	Production 1991 (rounded) (m.t.)	Production 1989 (rounded) (m.t.)
China	21	145,000	165,000
Indonesia	20	140,000	90,000
Thailand	16	110,000	90,000
Ecuador	15	100,000	45,000
India	5	35,000	25,000
Vietnam	4	30,000	30,000
Philippines	4	30,000	50,000
Taiwan	4	30,000	20,000
Central America and Caribbean	2	13,500	12,000
South America (excluding Ecuador)	2	12,000	7,000
Other	7	44,100	30,800
TOTALS	**100**	**690,100**	**564,800**

Source: Eurofish Report, February 13, 1992, page SP/8.

TABLE 3: Trends in Quebec exports of cold-water shrimp, by country, 1987-1991p

	1987		1988		1989		1990		1991p	
Country	Qty m.t.	Value $000	Qty m.t.	Value $000	Qty m.t.	Value $000	Qty m.t.	Value $000	Qty m.t.	Value $000
United States	727.5	9570.5	912.0	10848.0	526.7	6880.7	580.4	5764.3	559.7	5962.0
Japan	----	----	34.4	222.6	87.0	570.2	----	----	----	----
United Kingdom	46.3	592.1	367.8	2036.2	109.3	822.1	----	----	----	----
France	----	----	6.2	92.1	----	----	----	----	----	----
Sweden	64.2	1009.4	67.1	757.3	87.4	904.6	244.2	2541.7	74.2	731.5
Switzerland	80.5	1401.9	38.0	532.2	60.0	787.1	45.0	528.0	48.4	578.1
Australia	----	----	----	----	----	----	----	----	1.8	17.9
Denmark	307.8	1322.1	982.8	4145.8	47.2	215.2	33.8	297.5	----	----
Other	22.5	327.0	----	----	----	----	----	----	----	----
TOTAL	**1248.8**	**14222.9**								
Iceland			139.0	306.2	16.3	124.5	----	----	----	----
Netherlands and Belgium			15.4	20.9	19.5	228.4	----	----	----	----
Norway			10.0	50.3	----	----	238.0	2200.8	17.5	198.4
West Germany			0.4	1.8	----	----	----	----	----	----
Portugal			0.4	2.3	----	----	----	----	----	----
Other			45.9	217.1	30.1	222.0	0.1	1.6	17.5	195.3
TOTAL			**2619.4**	**19232.8**	**983.5**	**10754.8**	**1141.5**	**11334.0**	**719.1**	**7683.2**

Source: Statistics Canada, International trade

p = preliminary

TABLE 4: Trends in Canadian exports of cold-water shrimp, by country, 1988-1991p

	1988		1989		1990		1991p	
Country	Qty m.t.	Value $000	Qty m.t.	Value $000	Qty m.t.	Value $000	Qty m.t.	Value $000
United States	4041.0	28059.5	1912.8	13804.6	2478.6	13775.6	3350.2	15092.2
Japan	552.4	4306.1	730.5	6164.8	764.0	6588.6	888.0	7411.2
United Kingdom	498.9	3267.5	276.1	2478.4	244.3	2366.0	107.5	1148.6
France	126.9	529.7	118.8	389.0	56.4	288.4	120.2	369.7
Sweden	215.9	1995.0	853.5	5759.2	935.2	7276.4	760.9	4510.6
Switzerland	210.5	2718.3	282.4	3678.6	212.8	2764.2	292.6	3606.0
Australia	----	----	----	----	173.5	1054.2	16.1	100.7
Denmark	7344.0	35891.1	8081.3	30632.6	5060.2	16022.1	3559.4	9168.9
Iceland	214.8	487.4	323.5	956.9	219.0	352.8	----	----
Netherlands	47.1	246.2	90.0	943.3	127.3	1161.2	154.1	1042.7
and Belgium	10.0	50.4	104.2	1157.1	1310.4	7584.3	370.1	1762.5
Norway	277.4	3363.4	208.9	1353.7	104.0	526.5	52.5	414.9
West Germany	0.4	2.3	----	----	----	----	2.0	5.0
Portugal	341.2	1569.9	250.2	1786.9	401.8	2238.7	68.6	623.1
Other								
TOTAL	13880.5	82486.8	13232.2	69105.1	12087.5	61999.0	9742.2	45256.1

Source: Statistics Canada, International Trade

p = preliminary

TABLE 5: Supply of shrimp, all species, on United States market, in metric tonnes, 1986-1991

	1986	1987	1988	1989	1990	1991
Landings*	110,900	101,400	92,200	97,900	97,000	80,000
Imports	181,400	217,400	229,000	228,600	227,400	244,000
Supply	**292,300**	**318,800**	**321,200**	**326,500**	**324,400**	**324,000**

Source: Fisheries of the United States, 1990.
National Marine Fisheries Service, Washington D.C., (Urner Barry Publications).

* Shrimp landings are in live weight, headed.

TABLE 6: Supply of cold-water shrimp on the U.S. market, metric tonnes, 1985-1991

	1985	1986	1987	1988	1989	1990	1991
Landings*	18 400	33 100	37 600	36 300	40 600	31 100	18 300
Imports	13 400	7,700	7,000	3,900	2,700	4,600	4,800
Supply	**31 800**	**40 800**	**44 600**	**40 200**	**43 300**	**35 700**	23 100

Source: Fisheries of the United States, 1990.
National Marine Fisheries Service, Washington D.C.(URNER BARRY Publications).

* Landings of cold-water shrimp are in live weight.

TABLE 7: U.S. imports of all types of shrimp, in thousands of metric tonnes, by main exporting country, 1986-1991p

Northern countries:

ORIGIN	1986	1987	1988	1989	1990	1991p
Canada	1.6	3.2	2.4	2.0	2.2	3.4
Norway	3.1	2.0	0.6	0.1	1.0	0.5
Greenland	---	0.0	0.0	---	0.1	0.2
Iceland	0.7	0.2	0.0	0.0	0.2	0.5
Denmark	0.2	0.3	0.0	0.0	0.1	0.1
United Kingdom	1.7	1.2	0.5	0.4	0.2	0.0
Holland	0.1	0.1	0.0	0.0	0.0	---
USSR	0.3	---	---	---	0.4	0.0
Other	---	---	0.4	0.2	0.4	0.1
Sub-total	7.7	7.0	3.5	2.5	4.2	4.8

Main suppliers:

China	9.4	19.2	47.4	48.6	57.4	35.1
Ecuador	28.1	46.0	47.3	37.1	38.3	48.8
Mexico	33.8	39.1	28.9	28.0	16.8	16.6
India	11.1	12.9	14.6	13.1	14.2	17.5
Thailand	10.9	10.9	10.8	21.6	25.4	45.5
Brazil	9.0	7.5	9.1	7.5	4.0	3.8
Taiwan	15.7	16.8	7.9	3.3	1.6	1.4
Panama	9.9	7.5	6.7	8.0	5.3	5.9
Pakistan	6.5	8.0	6.6	5.0	5.5	5.3
Bangladesh	2.8	4.2	5.3	5.4	6.7	4.9
Honduras	2.4	3.6	4.2	3.4	4.2	5.9
Venezuela	4.1	2.7	4.1	5.6	3.5	3.5
El Salvador	3.4	3.3	3.7	2.9	2.4	2.1
Peru	1.7	2.7	1.9	1.7	2.2	2.2
Sub-total	148.8	184.4	198.5	191.2	187.5	198.5
Other	24.9	26.0	27.0	34.9	35.7	41.5
TOTAL	**181.4**	**217.4**	**229.0**	**228.6**	**227.4**	**244.8**

Source: Peckman J. Charles and U.S. Department of Commerce National Marine Fisheries Service, Washington D.C., (URNER BARRY Publications)

p = preliminary

TABLE 8: Price trends for selected cold-water shrimp products, 1985-1991

		unit	1985	1986	1987	1988	1989	1990	1991
1	Whole, cooked 90/120 shrimp/Kg Origin Greenland Market France	$ Can/Kg	3.26	4.29	5.51	5.54	4.46	5.04	4.94
2	Shelled, cooked 250/350 shrimp/lb Origin Norway Market United States	$ Can/Kg		14.11	14.38	12.43	11.51	10.96	9.29
3	Whole, cooked 250/350 shrimp/lb Origin Norway Market United Kingdom	$ Can/Kg			12.63	11.52	9.30	8.99	8.26

Source: 1- European Fish Price Report
2- Seafood Price-Current
3- European Fish Price Report

TABLE 9: European imports of shrimp, all species, metric tonnes, by main exporting country, 1987-1990

	1987	1988	1989	1990
Spain	41,55 .	46,811	59,466	71,078
Denmark	48,217	57,153	71,214	70,307
France	38,192	43,182	45,087	54,159
United Kingdom	40,914	47,219	48,807	51,392
Italy	16,556	19,414	20,956	21,999
Netherlands	15,785	17,327	19,822	20,502
West Germany	11,657	17,509	17,872	19,958
TOTAL	**212,915**	**248,615**	**283,224**	**309,395**

Imports of shrimp, France and United Kingdom, in metric tonnes, 1987-1991

		1987	1988	1989	1990	1990*	1991*
France	Warm	22,000	25,760	26,060	33,700	14,800	15,800
	Cold	16,200	17,330	19,040	20,500	7,800	7,170
United Kingdom	Warm	22,150	20,500	23,470	25,710	10,160	11,700
	Cold	18,650	26,660	25,330	25,690	11,640	11,600
TOTAL	Warm	44,150	46,260	49,530	59,410	24,960	27,500
	Cold	34,850	43,990	44,370	46,190	19,440	18,770
	Total	**79,000**	**90,250**	**93,900**	**105,600**	**44,400**	**46,270**

Sources: Seafood International, October 1991, page 26.
Globefish Highlights 1/91, page 6 (1987-1990).
Globefish Highlights 3/91, page 6 (January-June 1990-91).

* For the period January to June

TABLE 10: Japanese imports of shrimp, all species, thousands of metric tonnes, by main export country, 1985-1991

ORIGIN	1985	1986	1987	1988	1989	1990	1991*
Indonesia	24.4	27.7	30.8	38.6	50.0	53.2	44.4
Thailand	7.4	8.9	11.6	21.9	38.8	42.5	36.7
China	10.7	18.7	27.9	38.0	37.2	43.0	24.5
India	36.3	36.7	36.5	32.0	29.7	35.7	29.5
Philippines	6.0	8.4	11.8	18.6	18.4	18.4	17.7
Vietnam	7.0	9.4	11.7	16.5	15.9	24.7	15.0
Greenland	6.2	9.8	12.9	13.9	15.9	13.3	11.4
Taiwan	21.8	37.8	49.2	20.6	8.9	10.5	7.2
Other	63.1	55.4	53.5	58.1	48.6	42.1	40.1
TOTAL	182.9	212.8	245.9	258.2	263.4	283.4	226.5**

Source: NMFS Fisheries Market News Report, 6 December 1991, page 7
Globefish Highlights, 3/91, page 3
Seafood International, October 1990, page 25

* For the period January to October.

** For the period January to October 1990, only the total was available, at 227.5 thousand metric tonnes.

TABLE 11: Japanese imports of cold-water shrimp, thousands of metric tonnes, by main exporting country, 1986-1991

ORIGIN	1985	1986	1987	1988	1989	1990	1990*	1991*
Greenland	6.2	9.5	12.9	13.9	16.2	13.3	9.6	9.3
Iceland	1.7	2.1	3.3	3.6	3.0	2.6	1.7	2.4
Canada	0.2	0.7	1.2	1.6	3.0	2.0	1.1	2.4
Denmark	2.5	1.7	2.0	2.7	2.7	1.4	1.2	2.9
Norway	4.3	3.0	2.5	3.8	2.3	2.8	2.4	3.4
U.S.S.R.	0.5	0.3	0.6	0.5	0.9	1.4	0.8	0.9
France	0.6	0.7	0.8	0.5	0.2	0.04	0.04	0.06
Argentina	5.4	1.2	0.1	3.3	0.5	0.1	0.04	0.2
TOTAL	21.4	19.2	23.4	29.9	28.8	23.7	16.9	21.6

Source: Japanese Fisheries Market Report, October 1991
Globefish Highlights, January 1990, page 3

* For the period January to August

TABLE 12: Price trends for cold-water shrimp (whole, uncooked, frozen) on the Japanese market, 1988-1991

2L: 50-70 shrimp/Kg

L: 70-90 shrimp/kg

	2L			L
	Yen	**Annual average (Yen)**	**Average current $Can**	**Average current $Can**
April 1988	1975	2163	20.68	----
October 1988	2350			----
April 1989	2400	2425	20.75	----
October 1989	2450			----
April 1990	2550	2425	19.51	----
October 1990	2300			----
April 1991	2600	2450	20.84	11.33
October 1991	2300			11.00

Source: Japanese Fisheries Market Report

TABLE 13: Trends in value of Quebec production, by region ($'000), 1985 1990, and Trend in volume of shrimps purchased (Quebec plants), metric tonnes, 1984-1991p

	1985	1986	1987	1988	1989	1990
Gaspé	19,760	18,596	27,941	23,378	22,466	23,901
North Shore	3,523	3,428	8,784	3,617	6,476	3,128
Other	0	0	0	374	373	273
TOTAL	**23,283**	**22,024**	**36,725**	**27,369**	**29,315**	**27,302**

Trend in volume of shrimp purchases (Quebec plants), in metric tonnes, 1984-1991p

	1984	1985	1986	1987	1988	1989	1990	1991p
Volume purchased	5,278	6,539	6,689	7,714	8,174	9,586	9,636	9,481

Source: Statistics Division, Quebec Region

p = preliminary

TABLE 14: Net margin in the shrimp processing industry for various scenarios, 1986-1991

1st scenario: Production based on cooked, shelled shrimp from Norway, sold on the U.S. East Coast, 1986-1991

Year	Selling price $Can/Kg	Raw material used**	Margin $Can/Kg
1986+	14.19	7.01	7.18
1987+	14.72	9.76	4.97
1988+	13.08	7.05	6.03
1989+	11.99	5.62	6.37
1990+	10.99	4.96	6.03
1991++	9.24	5.95	3.29

2nd scenario: Production based on cooked, shelled shrimp, 250-350 shrimp/Kg, sold in the United Kingdom, origin Norway, 1987-1991

Year	Selling price* $Can/Kg	Raw material used ** $Can/Kg	Margin $Can/Kg
1987	12.66	9.76	2.90
1988	11.53	7.05	4.48
1989	9.30	5.62	3.68
1990	9.00	4.92	4.08
1991	8.42	5.95	2.47

\+ Weighted average price based on proportions of two types of products (125-175 shrimp/lb (26%) and 250-350 shrimp/lb (74%)).

++ Average price for category 250-350 shrimp/lb. This method of calculation, which considers only one category, leads to a difference of only 2% compared to the method used in previous years.

** The conversion rate used is 4.1

* The product selling price ($Can/Kg) is calculated from average monthly prices available ($US/lb) and ($US/Kg) which we have converted into $Can/Kg using the respective exchange rates for each of the months and the conversion factor for pounds to kilograms (2.2 lb/Kg)

TABLE 15: Catch record of Quebec shrimpers under 100' and average price per kilo paid to fishermen, 1981-1991p

Year	CATCH (mt)	PRIX ($/Kg)
1981	4,606	1.21
1982	5,549	1.25
1983	5,856	1.34
1984	4,868	1.28
1985	5,898	1.34
1986	6,235	1.71
1987	7,388	2.38
1988	7,914	1.72
1989	9,850	1.37
1990	9,397	1.20
1991	9,226 p	1.45

Source: DFO - Quebec, Economics, Statistics and Informatics Branch

p = preliminary

TABLE 16: Estimated average cash flow for Quebec shrimpers under 100', 1988-1991

	1988	1989*	1990	1991**
INCOME	($)	($)	($)	($)
Income from fishing	296,527	292,280	274,880	319,219
Other income	0	0	0	0
Total income	**296,527**	**292,280**	**274,880**	319,219
COSTS				
Fixed operating costs	12,139	21,559	21,559	21,559
Maintenance costs	25,402	14,994	12,965	13,381
Gear costs	9,386	16,135	13,953	14,400
Variable operatingcosts A	3,515	13,495	11,046	11,396
Variable operating costsB	41,308	46,033	39,807	41,083
Labour	95,470	87,573	82,360	95,644
Finance charges	35,244	38,290	38,290	38,290
Total costs	**222,464**	**238,079**	**219,980**	**235,753**
CASH FLOW	**74,063**	**54,201**	**54,900**	**83,466**

Source: * Costs and Earnings 1989, Pierre Lemieux, DFO Quebec.
** Estimate November 1991

D I V I S I O N D E S S E R V I C E S
E C O N O M I Q U E S

E C O N O M I C S E R V I C E S
D I V I S I O N

Ministère des Pêches et des Océans - Région du Québec
Department of Fisheries and Oceans - Quebec Region

(AVRIL 1992)

Liste des rapports d'étude		List of studies	
1982		1982	
82-1	Répertoire des programmes d'aide gouvernementale à l'industrie des pêches au Québec; 101 pages (non disponible).	82-1	-
1983		1983	
83-1	Processus d'évaluation et de prise de décision pour l'attribution des permis de pêche pour les bateaux de 45 pieds et plus; Document de travail; 13 pages; (non disponible).	83-1	-
83-2	Répertoire des programmes d'aide gouvernementale à l'industrie des pêches au Québec; 183 pages (non disponible).	83-2	-
1984		1984	
84-1	Répertoire des programmes d'aide gouvernementale destinés à l'industrie des pêches maritimes du Québec; ISBN-0-662-92919-5; 67 pages (non disponible).	84-1	Guide to Government Assistance Programs for the Quebec Marine Fishing Industry; ISBN-0-662-92919-5; 60 pages (not available).
84-2	Simulation comptable du pêcheur côtier; 15 pages (non disponible).	84-2-3	Fisherman's Accounting Exercise; 15 pages; (not available).
84-3	Simulation comptable du pêcheur hauturier; 15 pages (non disponible).		

84-4	Le registre comptable du pêcheur; 50 pages.	84-4	Fisherman's Accounting Register; 50 pages; (not available).
1985		1985	
85-1	L'industrie des pêches maritimes du Québec: Description statistique; ISBN 0-662-93183-1; 184 pages.	85-1	The Maritime Fisheries Industry of Quebec: Statistical Description; ISBN-0-662-93183-1; 184 pages (not available).
85-2	Répertoire des programmes d'aide gouvernementale destinés à l'industrie des pêches maritimes du Québec; ISBN-0-662-93438-5; 77 pages.	85-2	Guide to Government Assistance Programs for the Quebec Marine Fisheries Industry; ISBN-0-662-93438-5; 70 pages; (not available).
85-3	Étude de rentabilité de la flotte de pêche au crabe du Québec: 1984; 47 pages (non disponible).	85-3	Study on the Viability of the Quebec Crab Fleet: 1984; 47 pages (not available).
85-4	Étude de rentabilité du secteur de la transformation du crabe des neiges au Québec: 1984; 38 pages.	85-4	Economic Performance for the Crab Processing in Quebec: 1984; 35 pages (not available).
85-5	Coûts et revenus des bateaux de pêche sélectionnés du Québec: 1984; 113 pages.	85-5	Cost and Earnings for Selected Fishing Boats in Quebec: 1984; 113 pages.
85-6	Étude de rentabilité: crabiers côtiers-Estuaire du Saint-Laurent et Moyenne Côte-Nord: 1984; 68 pages (non disponible).	85-6	-
85-7	Description de la flotte de pêche du Québec: 1984; 51 pages.	85-7	-
85-8	Impact de l'addition de nouveaux permis semi-hauturiers dans la pêche au crabe du sud-ouest du Golfe; Document de travail; 25 pages (non disponible).	85-8	-
1986		1986	
	Étude de rentabilité des composantes de l'industrie des pêches maritimes québécoises liées aux chalutiers de moins de 100 pieds: 1985		Profitability Study on Various Components of Quebec Maritime Fishing Industry which are Associated with Trawlers under 100 feet in length: 1985
86-1	Volume 1 Les crevettiers; ISBN-0-662-93853-4; 71 pages.	86-1	Volume 1 Shrimp Trawlers; ISBN-0-662-24157-2; 71 pages.
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86-9 Coûts et revenus des bateaux de pêche du Québec; 1985; ISBN-0-662-94000-1; 140 pages.

86-10 -

1987

87-1 Données techniques et financières sur les crabiers de la Basse Côte-Nord du Québec; 1985; ISBN-0-662-94152-7; 33 pages (non disponible).

87-2 Données techniques et financières sur les cordiers du Québec; 1985; ISBN-0-662-94151-9; 34 pages (non disponible).

87-3 La pectiniculture au Québec; Description du cycle de production et analyse financière d'une méthode d'élevage; Cantin, C., Gilbert E.,; ISBN-0-662-94523-9; 87 pages.

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86-7 -

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86-9 Costs and Earnings of Quebec Fishing Vessels; 1985; ISBN-0-662-15063-5; 140 pages.

86-10 Estimation of the Financial Structure of Fishing Enterprise Between Cost and Earnings Survey Years; 37 pages; (not available).

1987

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87-2 Technical and Financial Data on Quebec Longliners; 1985; ISBN-0-662-15542-4; 39 pages (not available).

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87-8 Coûts et revenus des bateaux de pêche du Québec: 1986; (2 volumes); ISBN-0-662-94521-2; 54 pages et 60 pages.

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